DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

T00015WI
Revision 4
Textron Aviation Inc.
700
February 5, 2020

TYPE CERTIFICATE DATA SHEET NO. T00015WI

This data sheet which is part of Type Certificate No. T00015WI prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Textron Aviation Inc.
One Cessna Boulevard
Wichita, Kansas 67215

I. Model 700 (Transport Category) Approved September 21, 2019

Engines: Two Honeywell AS907-2-1S turbofans

Fuel: Jet A, Jet A-1, JP-5 and JP-8

Engine Limits Static thrust standard day, sea level

Takeoff	7,665 lb.
Maximum Continuous	7,428 lb.

Maximum permissible engine rotor operating speeds:

N_1 (fan)	9,830 RPM (96.79%) Takeoff 9,800 RPM (96.49%) Continuous
N_2 (Gas Gen.)	27,714 RPM (98.62%) Takeoff 27,599 RPM (98.22%) Continuous 28,075 RPM (99.9%) Transient (20 sec. max)

Maximum permissible interturbine gas temperatures ºF (ºC):

Takeoff	1,751 (955)
Max. continuous	1,742 (950)

Airspeed Limitations:

Vmo (maximum operating speed)	
Sea Level (0 ft.)	290 KIAS (289 KCAS)
8,000 ft.	305 KIAS (304 KCAS)
Airspeed to be linearly interpolated from 0 ft. – 8,000 ft.	
8,000 ft. to 29,375 ft.	325 KIAS (324 KCAS)
Mmo above 29,375 ft.	0.84 M_I (0.838 MACH calibrated)
Va (Maneuvering speed sea level)	
39,500 lb.	222 KIAS (221 KCAS)
See AFM for variations with weight and altitude.	
V_{RA} (Rough air speed)	235 KIAS (234 KCAS)/ 0.75 M_I (0.747 MACH calibrated)
Flap extension speeds	
V_{FE} (Up (0°) to 1 (7°) extension)	250 KIAS (249 KCAS)
V_{FE} (1 (7°) to 2 (15°) extension)	230 KIAS (229 KCAS)
V_{FE} (2 (15°) to Full (35°) extension)	180 KIAS (179 KCAS)

I. Model 700

Airspeed Limitations (cont'd):

V_{MCA} (Minimum control speed) Air Flaps 1	100 KIAS (100 KCAS)
V_{MCA} (Minimum control speed) Air Flaps 2	96 KIAS (96 KCAS)
V_{MCL} (Minimum control speed) Landing Flaps 2	102 KIAS (102 KCAS)
V_{MCL} (Minimum control speed) Landing Flaps Full	91 KIAS (91 KCAS)
V_{MCG} (Minimum control speed) Ground Flaps 1	80 KIAS (80 KCAS)
V_{MCG} (Minimum control speed) Ground Flaps 2	80 KIAS (80 KCAS)
V_{LO} (Landing gear operating speed)	230 KIAS (229 KCAS)
V_{LE} (Landing gear extended speed)	230 KIAS (229 KCAS)
V_{SB} (Max speed brakes extension speed)	No Limit
Maximum tire ground speed	195 knots

C.G. Range (Landing Gear Extended) Design C.G. Limits**:**

Forward: Linear variation from 34.00% MAC at 22,400 lbs. to 30.57% MAC at 24,000 lbs.
Linear variation from 30.57% MAC at 24,000 lbs. to 26.30% MAC at 28,000 lbs.
Linear variation from 26.30% MAC at 28,000 lbs. to 24.00% MAC at 32,000 lbs.
24.00% MAC at 32,000 lbs. to 36,000lbs.
Linear variation from 24.00% MAC at 36,000 lbs. to 25.50% MAC at 39,700 lbs.
Takeoff Forward 25.42% MAC at 39,500 lbs.

Aft: 40.63% MAC at 22,400 lbs. to 23,000 lbs.
Linear variation from 40.63% MAC at 23,000 lbs. to 31.95% MAC at 30,000 lbs.
31.95% MAC at 30,000 lbs. to 37,500 lbs.
Linear variation from 31.95% MAC at 37,500 lbs. to 30.99% MAC at 39,700 lbs.
Takeoff Aft 31.07% MAC at 39,500 lbs.

Landing Gear retracting moment -6,904 in-lbs.

Empty Wt. C.G. Range: None

MAC: 118.99 in. (L.E. of MAC at +402.02 in. aft of datum)

Maximum Weight:

Takeoff	39,500 lbs.
Landing	33,500 lbs.
Zero Fuel	26,000 lbs.
Ramp	39,700 lbs.

Minimum Crew for all Flights: Two (2) Pilots

Number of Seats: Maximum Thirteen (two crew plus eleven passenger seats)

Maximum Baggage: Aft Cabin Baggage Compartment 1,000 lbs.

Fuel Capacity (usable): Total usable fuel 14,511 lbs. (2,166 gal). Two wing tanks with 7,255.5 lbs. (1,083 gal) usable each (See NOTE 1 for unusable); +422.39 in. aft of datum.

Oil Capacity (usable): Tank mounted on each engine: 1.6 quarts usable RH engine, 1.7 quarts usable LH engine; +593.29 in. aft of datum (See NOTE 1)

I. Model 700

Maximum Operating Altitude: 45,000 ft.

Control Surface Movements (Up/Down/Left/Right refers to motion of the trailing edge of each control surface):

Elevator	Up	16.0 +1/-0 degrees
	Down	11.5 +/-0.5 degrees
Elevator Tab	Up	10.4 +/-0.5 degrees
	Down	14.4 +/-0.5 degrees
Rudder	Right	32.0 +1/-0 degrees
	Left	32.0 +1/-0 degrees
Horizontal Stabilizer	Up	7.5 +0.5/-0 degrees
	Down	2.5 +0.5/-0 degrees
Aileron Left and Right	Up	15.0 +/-0.5 degrees
	Down	15.2 +/-0.5 degrees
Aileron Servo Tab	Up	12.5 +/-0.5 degrees
	Down	11.6 +/-0.5 degrees
Wing Flap Outboard	Up	0.0 +/-0.25 degrees
	1	7.0 +/-1.0 degrees
	2	15.0 +/-1.0 degrees
	Full	35.0 +/-1.0 degrees
Wing Flap Inboard	Up	0.0 +/-0.25 degrees
	1	7.8 +/-1.0 degrees
	2	16.3 +/-1.0 degrees
	Full	36.2 +/-1.0 degrees
Groundspoilers	Panels 3, 4	60.0 +1/-2.0 degrees
	Panels 1, 2, 5, 6	60.0 +1.0/-4.0 degrees
Roll Spoilers/Speedbrakes		
	Full extend in air, flaps ≤ 15°	35.0 +/-1.0 degrees
	Full extend in air, flaps > 15°	17.5 +/-1.0 degrees

See Airplane Maintenance Manual for rigging instructions.

Serial Nos. Eligible: 700-0001 and On

Datum: 135.52 in. forward of the nose jack point.

Leveling Means: Longitudinal: Place level directly on the inboard crew seatrail and ensure it is parallel with the seatrail.
Lateral: Place the leveling bar across the inboard crew seatrails flush against the back of the rails at approximately FS 160.00 in.

Certification Basis:

1. 14 CFR Part 25, effective February 1, 1965, including Amendments 25-1 through 25-139, 25-141, and 25-143.

2. Special Conditions. The following special conditions apply:

SC No.	Subject
25-648-SC	Airplane Electronic-System Security Protection from Unauthorized External Access
25-649-SC	Isolation of Airplane Electronic System Security Protection from Unauthorized Internal Access
25-669-SC	Design Roll Maneuver Condition
25-681-SC	Non-Rechargeable Lithium Battery Installation
25-700-SC	Use of Automatic Power Reserve (APR) for Go-Around Performance Credit
25-721-SC	Side-Facing Seats – Installation of Airbag Systems
25-723-SC	Interaction of Systems and Structures
25-724-SC	Occupant Protection for Side-Facing Seats
25-728-SC	Installed Rechargeable Lithium Batteries
25-738-SC	Operation Without Normal Electrical Power

I. Model 700

Certification Basis: (cont'd)

3. Equivalent Safety Findings. The FAA made the following equivalent level of safety (ELOS) findings for the subject regulations:

ELOS MEMO NO	REGULATION	SUBJECT
TXTAV-014180-A-04	25.807(i)	Ditching Emergency Exits for Passengers
TXTAV-014180-A-15	25.811(d)(1), 25.812(b)(1)	Emergency Exit Marker & Locator Signs
TXTAV-014180-P-05	25.1141(f)(2)	Powerplant Valve Indication
TXTAV-014180-P-10	14 CFR Part 25 subparts E, F, G applicable to APU installations	Auxiliary Power Unit (APU) Certification Requirements
TXTAV-014180-P-13	25.1549(a)(b)(c)	Digital-Only Display of Engine Operating Parameters
TXTAV-014180-P-15	25.1203(a)	Turbine Tailpipe Fire Detection
TXTAV-014180-P-17	25.933(a)(1)	Flight Critical Thrust Reverser
TXTAV-014180-P-37	25.904, I25.5(b)(3), I25.6(a)	Lack of Functional Indication of ATTCS Operation
TXTAV-014180-SE-03	25.1303(a)(3)	Electronic Standby Direction Indicator (Compass)
TXTAV-014180-SM-01	25.671(c)(2)	Flight Control System Failure Criteria
TXTAV-014180-SM-04	25.841(a)(b)(6)	Cabin Pressurization – High Elevation Takeoff and Landing Operations (See NOTE 8 for additional information concerning high elevation operations)
TXTAV-014180-SM-05	25.831(g)	Acceptable High Temperature Physiological Environment During Failure Conditions
TXTAV-014180-SM-10	25.783(d)(2)	Cabin Entry Door Latching and Locking Independence
TXTAV-014180-SM-11	25.783(d)(2)	Nose Access Doors Latching and Locking Independence
TXTAV-014180-SM-12	25.841(b)(1), 25.843(b)(1)	Cabin Outflow Valve

4. Exemptions. The following exemptions from 14 CFR Part 25 apply:

   a. Exemption No. 16838, dated 15 June 2016, Partial Grant of Exemption to §25.809(a) for relief to the requirement for a means to permit viewing of the likely areas of evacuee ground contact prior to opening the overwing exit.

   b. Exemption No. 17119, dated 30 September 2016, Partial Grant of Exemption to §25.813(e), door between passenger compartments (for private operations only - not for hire, not for common carriage).

   c. Exemption No. 17119A, dated 15 October 2019, Grant of Exemption to §25.813(e), door between passenger compartments (for either private, not for hire operations, or on demand commercial operations).

   d. Exemption No. 17610, dated 23 October 2017, Grant of Exemption to §25.981(a)(3) from lightning protection aspects of fuel tank structure and systems.

   e. Exemption No. 17623, dated 27 October 2017, Grant of Exemption to §25.815 Aisle Width.

   f. Exemption No. 17941, dated August 16, 2018, Partial Grant of Time-Limited Exemption to §25.981(b) Fuel Tank Fleet Average Flammability Exposure (effective for Provisional TC Only).

   g. Exemption No. 18263, dated June 26, 2019, Grant of Exemption from criteria of §§M25.1 and M25.2(b) of appendix M as they related to the requirements of 14 CFR 25.981(b).

5. Additional Design Requirements and Conditions: The following design details or information must be maintained to ensure that an unsafe design condition is not present:

   a. Inflight Engine Restart. Compliance shown by test. Any modifications to the associated airplane flight manual (AFM) procedures require evaluation to ensure an unsafe condition is not introduced. Changes in the engine design affecting engine restart require aircraft-level evaluation.

I. Model 700

Certification Basis: (cont'd)

b. Engine Damage from Wing Ice Caused by Cold Soaked Fuel: The Airplane Flight Manual (AFM) must specifically address potential hazards associated with ice that may form on the wings due to cold soaked fuel including an AFM pre-flight inspection procedure (with inspection criteria based on fuel temperature and observed ambient weather conditions) must detect and address any ice accumulation on the upper wing surface after refueling. The FAA must evaluate any modification to this AFM procedure for a tactile check for wing ice to ensure an unsafe condition is not introduced.

6. Optional Design Regulations: The Model 700 complies with the following optional design regulations:

Ice protection in accordance with §25.1419 at Amendment 25-129.

7. 14 CFR Part 26: 14 CFR Part 26, Amendments 26-0 through 26-6 are not applicable to the Model 700.

8. 14 CFR 25.801 ditching not complied with.

Environmental Standards:

1. Noise Standards: 14 CFR Part 36, as amended by Amendments 36-1 through 36-31.

2. Noise Standards: A finding of regulatory adequacy pursuant to the "Noise Control Act of 1972" (49 USC Section 44715).

3. Fuel Venting and Exhaust Emissions Standards: 14 CFR Part 34, as amended by Amendments 34-1 through 34-5A.

Production Basis:

Production Certificate No. 4 amended to add Model 700 effective October 11, 2019. See NOTE 12 for airplane serial effectivity of Production Certificate No. 4 on new airplane serials.

Equipment:

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1. Current weight and balance information, including list of equipment included in certificated empty weight, and loading instructions are provided for each airplane at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include:

Unusable Fuel	83.08 lb. at +417.07 in.
Full Oil	23.25 lb. at +593.29 in.
Hydraulic Fluid	77.53 lb. at +487.89 in.

NOTE 2. Airplanes must be operated according to the FAA Approved AFM, part numbers 700FM-00 AFM Volume 1, 700NP-00 AFM Volume 2 Normal Procedures, and 700EAP-00 AFM Volume 3 Emergency/ Abnormal Procedures (or later FAA approved revisions). Required placards and markings are listed in Chapter 11 of Illustrated Parts Catalog, part number 700PC00 (or later revision).

NOTE 3. See Maintenance Manual, Chapter 4, "Airworthiness Limitations" for inspections, mandatory retirement life information, and other requirements for continued airworthiness.

NOTE 4. Aircraft definition for Type Certificate is Parts List 7400100, Airplane Assembly.

NOTE 5. Certification Maintenance Requirements (CMR) are found in Maintenance Manual, Chapter 4. Engineering approval of the CMR's is documented in the Textron Aviation System Safety Assessment reports.

NOTE 6. DELETED

NOTE 7. DELETED

NOTE 8. Flightcrew use of the alerting system during high elevation airport takeoff and landing operations may result in non-compliance with §91.211(a)(1), 121.329(b)(1)(b)(2) and 135.89(b) requirements for flightcrew use of supplemental oxygen.

NOTE 9 The Model 700 has been approved for high altitude operations (altitudes above 41,000 ft) by compliance with certain Part 25 sections. To ensure the compliance is maintained, any modifications to the pressure vessel must be approved in accordance with the requirements as shown in the appropriate certification basis. To ensure pressurization compliance is not affected, this includes modifications which could result in a pressure vessel opening, either crack-growth or antenna loss, greater than 5.5 sq. in.

NOTE 10 The Model 700 has been shown to meet the airworthiness requirements for operations in RVSM airspace. All serial numbers are eligible. Each operator must obtain RVSM operating approval directly from the FAA.

NOTE 11. The Model 700 received a Provisional Type Certificate on December 4, 2018, that was subsequently cancelled when the Type Certificate was issued on September 21, 2019.

NOTE 12. The following serials will be certificated TC only: 700-0001 through 700-0004, 700-0008, 700-0009, and 700-0011. Production Certificate No. 4 applies to Model 700 serial numbers: 700-0007, 700-0010, 700-0012 and On.

NOTE 13. The Model 700 is configured with fuel tank vent system protection approved by the FAA administrator, meeting the requirements of §121.1119(b) and §129.119(b).

--- END ---